

3(4)

AUTHORS: Kozhevnikov, N. P., Candidate of 30V/6-59-4-5/20
Technical Sciences, Bortnikov, Ye. A.

TITLE: A Pantograph for the Multiplex to Reduce the Position
Networks (Pantograf k mul'tipleksu dlya umen'sheniya
planovykh setey)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 4, pp 17 - 21 (USSR)

ABSTRACT: On a suggestion, and according to calculations, by
N. P. Kozhevnikov, the model of a special rhombic pantograph
for the multiplex was made in 1957 in the NIEM TsNIIGAiK
according to the pantograph type by Professor F.V. Drobyshev.
This new pantograph has a constant reduction coefficient, and
therefore offers higher accuracy. It also makes a separate
photographic reduction unnecessary. This model was tested by
experiment and in operation in 1958. The results of this test
are given here. At first the pantograph, and then the tests
carried out in the TsNIIGAiK and in the MAGP, are described.
These tests showed that the pantograph is marked by mean
errors of $\pm 0.1 - 0.14$ and maximum errors of $0.22 - 0.34$, which
is a great improvement in accuracy as compared with other

Card 1/2

A Pantograph for the Multiplex of Reduce the
Position Networks

SOV/6-59-4-5/20

reduction procedures. It is pointed out that it would be
ccnvenient to start the series production of these pantographs.
In this connection, some hints are given for the construction
(including one by F. K. Sverdlov of the MAGP on the way of
attaching it to the multiplex). There are 2 figures, and 4
tables.

Card 2/2

SOV/79-28-12-29/41

AUTHORS: Shchukarev, S. A., Morozova, M. P., Bortnikova, M. M.

TITLE: Formation Enthalpy of Cadmium Compounds With Phosphorus, Arsenic and Antimony (Ental'piya obrazovaniya soyedineniy kadmiya s fosforom, mysh'yakom i sur'moy)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3289-3292 (USSR)

ABSTRACT: Earlier the authors (Ref 1) showed that the process of heat formation of the compounds of nitrogen, phosphorus, arsenic, antimony and bismuth with zinc, contrary to that of the compounds of these elements with magnesium or strontium, takes place according to the rule of secondary periodicity (Ref 1). The authors were interested in finding the magnitudes of the heat of formation of cadmium compounds with the elements of the main subgroup of group (V). With nitrogen cadmium forms the extremely unstable compound CdN_2 (Ref 2), with phosphorus Cd_3P_2 , and apparently the unstable phosphide which probably possesses the formula CdP_2 (Ref 3). In the system cadmium-arsenic the compound Cd_3As_2 (Refs 3-5), and in the system cadmium-antimony the compounds $CdSb$ and Cd_3Sb_2 were found. Compounds of

Card 1/3

SOV/79-28-12-29/41

Formation Enthalpy of Cadmium Compounds With Phosphorus, Arsenic and Antimony

cadmium with bismuth are not present, at least in the thermodynamical sense of the word. The elements that had been chemically purified and investigated by spectrum analysis were used for the syntheses of the preparations. The formation enthalpy constants of Cd_3P_2 , Cd_3As_2 , and Cd_3Sb_2 were determined. It turned out that in spite of the heats of formation of the similar zinc and cadmium compounds, which are very close to each other, there exists a marked difference between the various formation heat constants of their compounds with the elements of the main subgroup of group (V). The substitution of cadmium for zinc in these compounds is accompanied by an abrupt decrease of the formation heats. The process of heat formation of the compounds of cadmium with the elements of the main subgroup of group (V) is obeying the rule of the secondary periodicity. There are 1 figure, 2 tables, and 14 references, 5 of which are Soviet.

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Formation Enthalpy of Cadmium Compounds With Phosphorus, Arsenic and Antimony

SOV/79-28-12-29/41

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: November 16, 1957

Card 3/3

BORTNITSKAYA, V.M.; KUTOVAYA, D.V.

Determining the permeability of rock fractures. Trudy UkrNIGRI
no. 5:314-317 '63. (MIRA 18:3)

KUTOVA, D.V.; BORTNITSKAYA, V.M. [Bortnyts'ka, V.M.]

All-Union seminar on laboratory investigation methods of the physico-mechanical properties of rocks for purposes of engineering geology.
Geol. zhur. 24 no.1:110-111 '64. (MIRA 18:7)

BORTNITSKAYA, V.M.

Method of studying the reservoir properties of fractured rocks
from a core. Geol. nefti i gaza 5 no.11:41-43 N '61.

(MIRA 14:11)

1. Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy institut.
(Rocks--Permeability)

CHERNYAK, N.I., kand. geol.-mineral. nauk; KUTOVAYA, D.V.; BORTNITSKAYA, V.M.

Second All-Union Conference on the problems of fractured
reservoir rocks. Neft. i gaz. prom. no.2:71-72 Ap-Je '63.
(MIRA 17:11)

1. Ukrainskiy nauchno issledovatel'skiy geologorazvedochnyy
institut.

BORTNITSKAYA, V.M.; KUTOVAYA, D.V.

Effect of the mineralization of connate water on the
determination of the gas permeability of rocks.

Trudy UkrNIGRI no.7:229-232 '63.

(MIRA 19:1)

BORTNITSKIY YE. V.

Bortnitskiy Ye. V. - The Preservation of Radiogen Argon in Glauconite.

The Sixth Session of the Committee for Determining the Absolute Age of Geologic Formations at the Department of Geologic-Geographical Sciences (OGGN) of the USSR Academy of Sciences at Sverdlovsk in May 1957

Izv. Ak Nauk SSSR, Ser. Geol., No. 1, 1958, p. 115-117 author Pekarskaya, T. B.

BORTNOVSKIY, Genrikh Aleksandrovich; BORNOVOLOKOV, E.P., red.;
VORONIN, K.P., tekhn.red.

[Printed circuits in equipment for radio amateurs] Pe-
chatnye skhemy v radioliubitel'skikh konstruktsiyakh.
Moskva, Gos.energ.izd-vo, 1959. 39 p. (Massovaya radio-
biblioteka, no.345). (MIRA 13:1)
(Radio circuits)

BORTNOVSKIY, Genrikh Aleksandrovich; BURLYAND, V.A., red.

[A radio amateur's workbench] Rabochee mesto radio-
liubitelia. Moskva, Energiia, 1964. 39 p. (Massovaya
radiobiblioteka, no.560) (MIRA 18:1)

BORTNOVSKIY, K. A.

(DECEASED)

1963/2

c' 1961

MACHINERY-

sugar manufacturing

see ILC

BORTNOWSKI, Gustav

Brewing and malting industries in the Polish People's Republic.
Kwasny prum 10 no.7s'46-148 J1 '64

1. Director of the Association of the Brewing Industry, Warsaw.

KOSTKUBA, Jozef, inz.; BORTNOWSKI, R., mgr inz. [translator]

Contemporary methods of mechanical removal of scale from
the surface of rolled products. Wiad hut 16 no.7/8:218-225
Jl-Ag. '60.

1. Hutni Projekt, Praga, CSR.

BORTNOWSKI, Roman; OSMAN, Henryk; KRATOCHWIL, Włodzisław

Mechanized draws for the elimination of surface defects in the finishing part of the rolling mill for semifinished quality steel products. Problemy proj hut maszyn 13 no.5.129-138 My '65.

1. Biprohut. Warsaw.

BORTNOWSKI, S; ZACZYNSKI, E.

(GAZ, WODA I TECHNIKA SANITARNA, Vol. 28, No. 3, 1954, Warszawa, Poland)

"Standards of water consumption for economic and communal purposes in towns."

p. 80.

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, Vol. 3, No. 4, L.C., APRIL 1954

BORTNYAK, W.N. [Bortniak, M.M.]

Distribution of some new and little-known plants in the Kiev area of
Polesye. Ukr. bot. zhur. 19 no.3:79-84 '62. (MIRA 15:7)

1. Ekspeditsiya po issledovaniyu pochvy pri Ukrainskom nauchno-
issledovatel'skom institute zemledeliya, g. Kiyev.
(Polesye—Botany)

Refining of black cottonseed oil by an emulsification method. D. M. Bortovoi and M. P. Salganski (Fat Combine, Gorki). *Maslobolno-Zhirovaya Prom.* 19, No. 3, 34-5 (1954).—Description with diagrams of an emulsifier are given for refining black cottonseed oil (I), utilizing essentially the treatment scheme of Sergeev and Sterlin (cf. C.A. 47, 8392i). Best results were obtained when I was emulsified with 68-67% lye soln. From 60 to 70 and 70-100% depending on their quality, excesses of alkali were found to be needed to refine, resp., expressed and solvent-extd. I. However, some batches of I with high acid no. required as much as 150% excess of alkali, while others were not clarified even when 300% excess was used. The data are given.

Vladimir N. Krukovsky

BORTOVY, I.M.

U.S.S.R.

Comparison of the methods of study in complex forming systems in organic chemistry. B. V. Tomov and I. M. Bortov (State Univ., Tumb). Zhur. Obshchei Khim. 24, 1750-51 (1954).—Systems of phenols-amines were examined, in respect to complex formation by isolation of complexes, by thermal analysis and by electrochem. method proposed earlier by T. and Kulev (cf. C. 1, 29, 6578) and Izv. Tomik. Politekh. Inst. 64, 3 (1948) in which the system is made a part of an indicating circuit by means of a fresh Na electrode inserted into it, thus affording a source of e.m.f. at the site of interaction of the system with Na. The last method appeared to be the most sensitive one for detection of complex formation. The following new complexes were isolated conventionally (components, ratio, m.p. given): 2-aminopyridine-PhOH, 1:1, 21-2°; 2-aminopyridine-p-ClC₆H₄OH, 1:2, 42-3.5°; 2-aminopyridine-p-OC₆H₄OH, 1:2, 89-90°; benzidine-pyrogallol, 2:1, 143-4.5°; phloroglucinol-benzidine, 2:3, 164-7°; 2,4,6-trichlorophenol-benzidine, 4:1, 90-100°; 2,4-dichlorophenol-1-naphthylamine, 1:1, 72-3°; 2,4,6-trichlorophenol-2-naphthylamine, 1:1, 91-6°; 2,4-dinitrophenol-2-aminopyridine, 1:1, 154-7°; 2,5-dinitrophenol-2-aminopyridine, 1:1, 161-2°; 2,6-dinitrophenol-2-aminopyridine, 1:1, 168-188.5°; p-nitrophenol-2-aminopyridine, 1:1, below 60°; p-nitrophenol-pyridine, 1:1, 63-1°; 2,4-dinitrophenol-pyridine, 1:1, 79-80°. For solids, the most satisfactory method to form the complexes was trituration of the components in the solid state; in many instances more rapid and complete reactions took place than did in soln. U. M. Kosolapoff

5.3610

78296
SOV/79-30-3-50/69

AUTHORS: Tronov, B. V., Bortovoy, I. M., Potekhina, L. I.

TITLE: Complex Formation of Amines With Different Organic Compounds. I. Complexes of Benzidine and Naphthlamines With Some Halogenated Phenols

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 982-985 (USSR)

ABSTRACT: Complex formation of benzidine, α -naphthylamine, and β -naphthylamine with halogenated phenols was studied. The complexes, shown in Table 1, were obtained by simple addition of the components in a suitable solvent (usually benzene).

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Complex Formation of Amines With Different
Organic Compounds. I.

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Key to Table 1: (a) Nr; (b) amines; (c) phenols; (d)
molecular composition of complexes; (e) mp; (f) benzidine.

(a)	(b)	(c)	(d)	(e)
1	(f)	4-ClC ₆ H ₄ OH	1:2	122-123°
2	(f)	4-BrC ₆ H ₄ OH	1:2	123-124
3	(f)	4-JC ₆ H ₄ OH	1:2	149-150
4	α -C ₁₀ H ₇ NH ₂	4-ClC ₆ H ₄ OH	1:1	40-41
5	α -C ₁₀ H ₇ NH ₂	4-BrC ₆ H ₄ OH	1:1	52-53.5
6	α -C ₁₀ H ₇ NH ₂	4-JC ₆ H ₄ OH	1:1	61-62
7	β -C ₁₀ H ₇ NH ₂	4-ClC ₆ H ₄ OH	1:1	70-71
8	β -C ₁₀ H ₇ NH ₂	4-BrC ₆ H ₄ OH	1:1	71-73
9	β -C ₁₀ H ₇ NH ₂	4-JC ₆ H ₄ OH	1:1	88-89

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Complex Formation of Amines With Different
Organic Compounds. I.

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SOV/79-30-3-50/69

The complexes obtained were tested for their bactericidal action according to suspension method, using B. Coli. Twenty min in 1:90 phenol was taken as standard. Results are given in Table 2.

Table 2. Bactericidal action of complex compounds and their components on B. coli. (a) Nr; (b) compounds tested; (c) compound concentration (%); (d) bactericidal action at exposure (in min); (e) benzidine + 4-chlorophenol; (f) benzidine + 4-bromophenol; (g) benzidine + iodophenol; (h) α -naphthylamine + 4-chlorophenol; (i) α -naphthylamine + bromophenol; (j) α -naphthylamine + 4-iodophenol; (k) β -naphthylamine + 4-chlorophenol; (m) β -naphthylamine + bromophenol; (n) β -naphthylamine + 4-iodophenol; (p) benzidine; (r) α -naphthylamine; (s) β -naphthylamine; (t) 4-chlorophenol; (u) 4-bromophenol; (v) 4-iodophenol.

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Complex Formation of Amines With Different Organic Compounds

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(a)	(b)	(c)	(d)	
			20	40
1	(e)			
2	(f)	0.5	-	+
3	(g)	0.295	-	+
4	(h)	0.248	-	-
5	(i)	0.493	+	+
6	(j)	0.314	+	+
7	(k)	0.414	±	+
8	(m)	0.258	-	+
9	(n)	0.283	±	+
		0.411	±	+
	(p)			
	(r)	0.43	-	-
	(s)	0.5	±	+
	(t)	0.493	-	-
	(u)	0.518	+	+
	(v)	0.513	-	+
		0.284	±	+

Note: (+) lack of B. coli growth (i.e.) positive bactericidal action); (-) growth of B. coli; (±) growth at first repetition and lack of growth at second repetition.

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Complex Formation of Amines With Different
Organic Compounds. I.

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SOV/79-30-3-50/69

Some of the experiments were conducted with the participation of M. A. Kuchmar. There are 2 tables; and 7 references, 1 U.S., 6 Soviet. The U.S. reference is: O. Rahn, Injury and Death of Bacteria by Chemical Agents (1945).

ASSOCIATION: Tomsk State University (Tomskiy gosudarstvennyy universitet)

SUBMITTED: May 12, 1959

Card 5/5

TRONOV, B.V.; BORTOVOY, I.M.; MOSKALENKO, N.P.

Complexes of naphthoquinones with phenols. Zhur. ob. khim. 33
no.5:1639-1641 My '63. (MIRA 16:6)

1. Tomskiy gosudarstvennyy universitet imeni V.V. Kuybysheva.
(Naphthoquinone) (Phenols)

SOV/28-59-4-15/19

• 28(3); 25(?)

AUTHORS: Kaufman, R.Ya., Engineer; Kheyfets, A.Z., Engineer;
Bortovskiy, B.V. and Kirilenko, A.G., Engineers,
(Odessa)

TITLE: To The Revision of The Standards "Drawings System"
(K peresmotru standartov "Sistema chertezhnogo
khozyaystva)

PERIODICAL: Standartizatsiya, 1959, Nr 4, pp 34-35 (USSR)

ABSTRACT: Three separate letters to the periodical point out
shortcomings in the existing standards for techni-
cal drawings, a draft of a new standard, and amend-
ments. The faults are: too cumbersome designations
of materials, vague recommendations concerning the
place of dimension lines and figures and the de-
signations of finish, superfluous lists and speci-
fications requiring a lot of work of designers and

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SOV/28-59-4-15/19

To The Revision of The Standards "Drawings System"

copyists and being used by nobody, the rule to indicate the name and number of "GOST" standards in drawings, causing amendments in thousands of drawings when slight amendments are made in a material standard. There are 2 diagrams.

ASSOCIATION: Irkutskiy filial NIIKhIMMASH (Irkutsk Branch of the NIIKhIMMASH) (R. Ya. Kaufman, Engineer)

Card 2/2

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
Adaptation of the periodic tar-distillation apparatus to the continuous process. A. G. Boris and O. G. Vodnev. <i>Coke and Chem.</i> (U. S. S. R.) 1958, No. 11, 46-6; <i>Khim. Referat. Zhur.</i> 3, No. 4, 114 (1939).—At the Serson coke plant, a tube still was constructed (replacing the individual stills) for the removal of water from tar. On passing from the storage tank through the tube still, the tar is heated to 170-80° and passed into the evaporator, where it loses water and the light-oil fractions. The mist of water vapor and oil is condensed and used. The dehydrated tar flows into a horizontal still which is under a pressure of 500 (4) mm Hg, where it is distributed along 3 trays situated along the heated tubes. The vapors from the still pass through 3 dephlegmating columns. The pitch is removed from the vacuum still through an intermediate vessel connected with the still and with another vessel through which the pitch flows at the level of the heated tubes into the heat exchanger. Ways for improving this preliminary scheme of tar distn. are discussed. W. R. Heun																																																			
ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION																																																			

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ST AND GROUPS

PROCESSES AND PROPERTIES INDEX

An experimental tubular system for the rectification of tar. A. G. Boris, B. N. Vul'fson, Ya. A. Iiron and K. M. Tavorine. *Coke and Chem.* (U. S. S. R.) 1946, No. 11-12, 48-51; *Khim. Referat. Zhur.* 4, No. 7-8, 126-7 (1941).—The tar is passed from the collector to the 1st stage of the tubular furnace contg. chiefly pipes of the convection section of the system. The 2nd stage of the furnace contains pipes of the convection and radiation sections. The tar is heated in the 1st stage to 103-211°, passed to the evaporator, where the water vapor and a part of the light fractions are sep'd. from the tar, and then pumped into the 3rd stage of the furnace, where it is heated to 200-300°. From this furnace the tar is passed to the evaporator of the 2nd stage, the vapor phase sep'd. from the pitch and passed to the rectification column. The column consists of 36 plates and has 4 side branches for the anthracene, heavy, naphthalene and phenol fractions. The heavy benzene fraction is sep'd. at the top of the column. The quality of the anthracene and naphthalene fractions is considered satisfactory if the phenol fraction with 87% of naphthalene contains up to 12.6% of phenols. Data on the heat conditions for the furnace and on the heat in the convection and radiation sections are tabulated. A method for detg. the no. of plates is described and analyses of the different fractions are given.

W. R. Henn

ASAC, S. A. METALLURGICAL LITERATURE CLASSIFICATION

RESEARCH SYMBOLS

STANDARD

STANDARD MAP ONLY

WILSON

STANDARD ONE ONLY

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
Installations for the extraction of pyridine bases from the mother liquor of saturators. A. G. Horis and V. M. Pankovskiy. <i>Chem. and Chem. (U. S. S. R.)</i> 11, No. 2, 30-8 (1941); <i>Chem. Abstr.</i> 1943, I, 1129. — Equipment and operation are described for the noncontinuous removal of pyridine bases from the mother liquor of saturators used for washing ethyl-ethyl gas. The method of Chausman and Grigor'ev (second preceding abstr.) is followed. Questions of materials are discussed. Glenn C. Soth																																																			
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION																																																			
SECTION 1: METALLURGICAL LITERATURE CLASSIFICATION																										SECTION 2: METALLURGICAL LITERATURE CLASSIFICATION																									
SECTION 3: METALLURGICAL LITERATURE CLASSIFICATION																										SECTION 4: METALLURGICAL LITERATURE CLASSIFICATION																									

S/068/61/000/010/002/002
E071/E435

AUTHORS: Borts, A.G., Krichko, A.A., Konyashina, R.A.,
Lozovoy, A.V. and L'vova, L.N.

TITLE: Processing of anthracene fraction by a hydrogenation method

PERIODICAL: Koks i khimiya, no.10, 1961, 53-56

TEXT: An investigation of the destructive hydrogenation of anthracene fraction I (raw and crystallized out) of the Nizhne-Tagil'skiy metallurgicheskiy kombinat (Nizhne-Tagil Metallurgical Combine) was carried out in order to develop a method of its conversion into more valuable products - light aromatics and naphthalene, the demand for which is steadily increasing. The hydrogenation experiments were carried out on a continuous pilot plant with the capacity of the reactor of 0.2 and 6.0 litres. The influence of pressure (100 to 200 atm), temperature (520 to 550°C) volume velocity (0.5 to 1.0 kg/litre hr) and catalysts (MoO₃ + Al₂O₃ and CoO + MoO₃ + Al₂O₃) on the yield and composition of the products was tested. It was found that, on increasing pressure from 100 to 200 atm at 520°C, the yield of hydrogenated products decreases from 96.4 to 90.1%. The depth of conversion of

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E071/E435

Processing of anthracene ...

the anthracene fraction into liquid products boiling up to 230°C and not initially present in the raw material was: at 100 atm, 15.8%; at 150 atm, 19.8%; at 200 atm, 27.2%. The yield of the fraction with a boiling temperature above 300°C (originally present in an amount of 68.1%) decreased to 42.6, 30.7 and 25.6% respectively. Under a pressure of 150 atm, anthracene is completely transformed into lower boiling products, carbazole by 87.8%, phenanthrene by 81%. A pressure of 150 atm was found to be the optimum for the process. An increase in the temperature of the process from 520 to 550°C is accompanied by some decrease in the yield of hydrogenation products and an increase in the proportion of fractions boiling to 230 and 300°C. The temperature range 520 to 550°C can be utilized in the process: beginning from 520°C for a fresh catalyst and steadily increasing during 100 to 200 hours to 550°C with decreasing activity of the catalyst (due to the deposition of coke). The formation of coke amounted to 0.14% for MoO₃ + Al₂O₃ catalyst and to 0.12% for CoO + MoO₃ + Al₂O₃ catalyst. The latter catalyst was found to be more active (a higher yield of products boiling to 230°C). The optimum volume velocity was found

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E071/E435

Processing of anthracene ...

to be 0.5 kg/litre of the catalyst hour. On complete hydrogenation of the anthracene fraction I (recirculation of the fraction boiling above 250°C, about 45%) the following method of processing hydrogenation products is proposed: fraction boiling up to 250°C is distilled, the distillate boiling up to 150°C is extracted with diethyleneglycol to separate aromatic hydrocarbons. The refined products consisting mainly of 5 and 6 membered naphthenes can be transformed into C₆-C₈ aromatic hydrocarbons by platforming. The fraction boiling at 150 to 200°C (81.9% aromatic hydrocarbons) can be used as a solvent. The fraction boiling at 200 to 230°C can be used for the production of naphthalene (filtration at 0°C) and tetralene (rectification). The denaphthalenized fraction 200 to 230°C can be used as a substitute for tetralene or, on mixing with the fraction 150-200°C, as a solvent for motorcar paints. The fraction boiling at 230 to 250°C, consisting mainly of α and β-methylnaphthalenes, can be used for their production. Moreover, the fraction boiling at 210 to 250°C (without separation of naphthalene) can be oxidized to phthalic anhydride with a 70% yield. The yield of individual products are given in Table 4. There are 1 figure, 4 tables and 2 Soviet Card 3/5

Processing of anthracene ...

S/068/61/000/010/002/002
E071/E435

references.

ASSOCIATIONS: Gosudarstvennyy komitet Soveta Ministrov RSFSR po koordinatsii nauchno-issledovatel'skikh rabot (State Committee of the Council of Ministers of the RSFSR for Coordination of Scientific-Research Works) A.G.Borts;
IGI Pri Gosekonomsoвете SSSR (IGI at the State Economic Council of the USSR) A.A.Krichko, R.A.Konyashina, A.V.Lofovoy and L.N.L'vova.

Card 4/5

BORTS, A.G.

Conference of specialists of the coke industry of the R.S.F.S.R.
Biul.tekh-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekhn.inform. no.4:
82 '62. (MIRA 15:7)
(Coke industry)

BORTS, A. G.; KRICHKO, A. A.; KONYASHINA, R. A.; LOZOVY, A. V.;
L'VOVA, L. N.; Prinimala uchastiye: TSITRON, I. L.

Production of chemicals from the anthracene fraction of coke-
oven coal tar by the high temperature hydrogenation method.
Trudy IGI 17:250-261 '62. (MIRA 15:10)

(Anthracene) (Coal-tar products)
(Hydrogenation)

BORTS, A.G.

Improve the technical standards of the work of factory laboratories.
Koks i knim. no.2:55-58 '64. (MIRA 17:4)

1. Gosudarstvennyy komitet Soveta Ministrov RSFSR po koordinatsii
nauchno-issledovatel'skikh rabot.

BORTS, A.I.

Coordination of plant laboratory work in the coke industry.
Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekhn.
inform. 16 no.11:76-77 '63. (MIRA 16:11)

ZABOLOTNYY, I.I., kand. veter. nauk; KASHCHENKO, A.K., kand. sel'-
khoz. nauk; KOVALENKO, M.A., kand. sel'khoz. nauk; BORTS, I.L.,
kand. sel'khoz. nauk; KARAMYSHEV, A.P., ~~starahy hospodary sel's.~~
VENKOVA, G.I. [Vienkova, H.I.], red.; NEMCHENKO, I.Yu., tekhn.
red.

[Advanced practices in swine breeding] Peredovi metody robo-
ty v svynarstvi. Kyiv, Derzhsil'hospvydav URSR, 1961. 234 p.
(MIRA 15:7)

(Swine breeding)

BORTS, Il'ya Lazarevich, kand. sel'khoz. nauk; ZHURBA, Valentina
Andreyevna, kand. sel'khoz. nauk; KHRYASHCHEVSKIY, V.M.
[Khriashchevs'kyi, V.M.], red.; GULENKO, O.I.[Hulenko, O.I.],
tekhn. red.

[Experience in the use of antibiotics in swine raising] Dosvid
vykorystannia antybiotykyv u svynarstvi. Kyiv, Derzh.vyd-vo
sil's'kohospodars'koi lit-ry URSR, 1962. 29 p. (MIRA 15:7)
(Antibiotics--Swine--Feeding and feeds)

USSR/Farm Animals - Swine.

C-4

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83429

Author : ~~Borts, I.I.~~, Bryushinin, I.G., Kovalenko, N.A., Nazarenko,
V.A., Pochernyayeva, G.M., Spirin, K.F.

Inst : -

Title : Corn Waste as Valuable Swine Fodder.

Orig Pub : Svinovodstvo, No 12, 38-44

Abstract : When corn waste (CW) was fed to adult pregnant and nursing sows in proportions reaching 23-25 and 41.45 percent of fodder rations, negative effects in terms of the sows' fertility and milk productivity, or in terms of piglet development were not observed. It was determined that CW may be fed to suckling piglets as additional fodder, and to weaned piglets as basic fodder in feed mixtures. When raising pure-bred sows to mating age, it is possible to replace grain feeds by CW, limiting it to 60 percent of the feeds' nutritional values. As swine which were

Card 1/2

USSR/Farm Animals - Swine.

C-4

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83429

fattened for meat and lard production were fed with 35-70 percent of CW, harmful effects were not encountered provided that 10 percent of protein and 15-20 percent of green fodder were included into the rations. Costs of weight gains were 14.36 percent lower than when barley, oats, or wheat waste were used for feedings. Digestibility coefficients of rations containing 70 percent of CW were higher than when rations without CW were used for animals of all age groups. -- A.D. Musin

Card 2/2

VEZIROV, R.R.; SHELEVOY, G.S.; BORTS, I.S.

Remote control of the operation of flowing wells in the Zyrya
area. Azerb. neft. khoz. 39 no.2:23-24 F '60.

(MIRA 14:8)

(Apsheron Peninsula—Oil fields—Production methods)
(Remote control)

BORTS, M.A., inzh.; ZARUBIN, L.S., kand.tekhn.nauk; KAMINSKIY, V.S., kand.
tekhn.nauk; KORSAN, L.L., inzh.

Studying the hydrodynamics of liquids in the rotor of a precipitating
centrifuge by means of a radioactive isotopes. Shor. inform. po obog.
i brik. ugl. no.4:3-12 '57. (MIRA 11:6)
(Hydrodynamics) (Radioisotopes--Industrial applications)
(Coal preparation--Equipment and supplies)

PCPES, N.A., Cond Chem Sci— (also) "Study of ^{the} performance and technological ~~evaluation~~ ^{design} of ^{asym} ~~super~~ precipitation centrifuges used in the coal-concentrating industry." *Log*, 1958. 30 pp with ill~~us~~ (Acad Sci USSR, Inst of Gondurible Minerals), ² 120 ^{copy} ~~copies~~. Printed in ^{rotary press} ~~the USSR~~. (U, 12-58, 116)

- 23 -

BORTS, M.A.

10(4): 21(5); 24(8) PHASE I BOOK EXPLOITATION SOV/2457

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniya v narodnom khozyaystve i nauke. 2d. Moscow, 1957

Teploelektrika i gidrodinamika; trudy konferentsii, tom 4 (Heat Engineering and Hydrodynamics; Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science Vol 4) Moscow, Gosenergoizdat, 1958. 88 p. Errata slip inserted. 2,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR, and USSR. Glavnoye upravleniye po ispol'zovaniyu atomoy energii.

Ed.: M. A. Strykovich (Resp. Ed.), O. Ye. Kholodovskiy, and M. S. Puzichov; Ed. of Publ. House: L. M. Sine'nikova; Tech. Ed.: M. I. Borunov.

PURPOSE: This collection of articles is intended for scientists and laboratory workers concerned with the use of radioactive and stable isotopes.

COMMENT: This collection of papers deals with the application of radioactive and stable isotopes as measuring tools in various types of scientific investigation. No personalities are mentioned. References are given after some of the articles.

2. Bartolomey, G.O., Ya.O. Vinokur, V.A. Kolokol'tsev, and V.I. Zetunoy. Use of Gamma Rays for Studying the Process of Diffusion 9
3. Kutsalevich, S.S., and V.M. Moskvichova. Use of Gamma-Radioscopy for Studying the Hydrodynamics of a Multiliquid System 12
4. Poletavkin, P.O., and M.A. Shapkin. Method of "Tagged" Atoms for Investigating Water and Steam Content in Surface Boiling of a Fluid 16
5. Rudzyavtsev, V.S. Determining the Specific Surface Area of Quartz and Cement Powders by the Sorption Method With the Use of "Tagged" Atoms 20
6. Moskvina, V.M., and I.I. Kurbatova. Use of Radioactive Isotopes for Studying Sulfate Corrosion of Concrete 28
7. Syrtorich, M.A., V.I. Yezumskiy, and V.A. Lukin. Methods for Determining the Density and Moisture Content of Soils With the Aid of Radioactive Emulsions 33
8. Polozova, L.O., and R.P. Rayzman. Study of the Processes of Moisture Transfer in Building Materials by Means of Gamma-Radioscopy 38
9. Shrikorish, M.A., I.M. Khaybulin, and L. K. Khokhlov. Use of Radioactive Isotopes for Investigating the Solubility of Salts in Water Vapor at High Pressures 41
10. Stepanov, L.S., A.Ya. Antonyov, and A. V. Sumov. Investigation of the Characteristics of Vapor at a Pressure of 185 atm. With the Aid of Radioactive Isotopes 46
11. Dubrovskiy, V.A. Use of Radioactive Isotopes for Observing the Motion of the Molten Glass Mass in Glass Furnace Tanks 52
12. Machinskiy, V.V. Use of Radioactive Isotopes in Studying the Filtration of Fluids Through Porous Media 57
13. Lazpunskaaya, D.I., and A.Ya. Epsal'n. Radioisotope Methods for Investigating Flow Processes of Fluids in a Porous Medium 62
14. Boker, M.A., I.S. Zarubin, V.S. Kuznetsov, and L.L. Korotak. Investigation of the Hydrodynamics of a Fluid in the Centrifugal Rotor of a Sealing Centrifuge With the Aid of Radioactive Isotopes 67
15. Volokovitch, M.P., M.V. Churayev, and B.Ya. Minkov. Investigations of the Motion of Water in Feet Under Laboratory and Field Conditions With the Use of Radioactive Isotopes 72
16. Arshanel'skiy, M.M. Use of Radioactive Isotopes for Investigating Suspensions of River Silt 78
17. Yernuk, A.I., and A.S. Shubin. Use of Radioactive Isotopes for Investigating the Mechanism of the Drying Process 85

BORTS, M.A., inzh.

Investigating the operation and design of centrifugal settling
classifiers used in the coal industry. Obog. i brik. ugl. no.5:
11-30 '58. (MIRA 12:9)

(Coal preparation) (Centrifuges)

BORTS, M.A., kand. tekhn. nauk

Efficiency coefficient of screw-conveyer settling centrifuges.
Khim. mash. 3 no.3:18-20 My-Je '59. (MIRA 12:12)
(Separators (Machines))

BORTS, M.A.; ZARUBIN, L.S.; DEMIDOV, L.G., otv.red.; TSUKERMAN, S.Ya.,
red.izd-va; PROZOROVSKAYA, V.L., tekhn.red.; NADEINSKAYA, A.A.,
tekhn.red.

[Continuous centrifugal settling machines; design and use in the
coal mining industry] Shnekovye osaditel'nye tsentrifugi;
konstruktsiia i ispol'zovanie v ugol'noi promyshlennosti. Moskva,
Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 61 p.
(MIRA 14:2)

(Coal preparation plants--Equipment and supplies)
(Separators (Machines))

BORTS, M.A., kand.tekhn.nauk; SKVORTSOVA, V.N., inzh.

Methods of fractionation of coal smalls in heavy liquids.
Obog.i brik.ugl. no.15:68-74 '60. (MIRA 14:12)
(Coal preparation)

BORTS, M.A., kand.tekhn.nauk; STEPANOVA, D.I., inzh.

Study of some conditions for using polyacrylamide. Obog.1
brik.ugl. no.27:38-48 '62. (MIRA 17:4)

BORTS, M.A.; STEPANOVA, D.I.; GERSHKOVICH, V.L.; MAKARUSHINA, M.I.;
FILIPISHIN, I.T.

Use of polyacrylamide in the filtration of slurry under pressure.
Koks i khim. no.12:3-6 '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruk-
torskiy institut po obogashcheniyu i briketirovaniyu ugley (for
Borts, Stepanova). 2. Zhilevskaya OPOF Vsesoyuznogo nauchno-
issledovatel'skogo i proyektno-konstruktorskogo instituta po
obogashcheniyu i briketirovaniyu ugley (for Gershkovich,
Makarushina). 3. Bogurayevskaya opytnaya fabrika tsentrobezhnogo
obogashcheniya uglya (for Filipishin).

BORTS, M.G.

BORTS, M.G.; KROPANIN, M.T.; SYTNIK, G.K. [deceased]; RAKHVALOV, N.S. [deceased]

Fifteenth anniversary of the Chelyabinsk Forging and Pressing Plant.
Avt.1 trakt.prom. no.11:44-45 N '57. (MIRA 10:12)

1. Kuznechno-pressovyy zavod, Chelyabinsk.
(Chelyabinsk--Forging) (Chelyabinsk--Sheet-metal work)

cd

Activated white filler for synthetic rubber mixtures.
M. I. Boris and A. D. Zaitchkovskii. *Lekhty Prom.*
I. No. 3, 25 (1941).--Silicic acid was obtained at Al
plants by treating H_2SO_4 , HF and H_2SiF_6 with H_2O
and NH_4OH . It was mixed with water (1:1.5) for 10-
15 min., the suspension left overnight, the next day it was
filtered from the excess water, washed twice with hot
water, dried at 100-110°, ground to pass a 60-mesh
sieve, and calcined in a muffle furnace at 400-450°.
Addn. of 100-120% by wt. of this powder to rubber mixts.
increased the wear resistance of the soles. The wear re-
sistance was also increased by replacing 30% of kaolin in
ordinary rubber sole mixts. with this powder. Although
the extensibility was less, this was rectified by higher per-
centage of softeners. H. Z. Kamich

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

BORTS, M. Ya., Inzh. (Khar'kov)

Designing filter stations constructed from standardized large-panel elements. Ved. 1 san. tekhn. no. 18-6 Ia 1964
(MIRA 18:2)

10G31

BORTS, V.

USSR/Manufacture of RR Equipment 4402.0300 Oct 1947

"Better Utilization of Equipment in Transportation Enterprises," V. Borts, Director-It Col of Rolling Stock, 4 pp

"Zh-d Transport" No 10

Analysis of output of single machines at various railway equipment plants, some of which averaged 45 - 60 thousand rubles worth of production a year, while others were considerably lower. Discusses use of average progressive production norms. Many plants and enterprises named.

10G31

LC

BABARYKIN, N.N.; GALATONOV, A.L.; SAGAYDAK, I.I.; SHPARBER, L.Ya.;
TSVERLING, A.L.; YAKOBSON, A.P.; BORTS, Yu.M.; ZHILO, N.L.;
KOPYRIN, I.A.; OSTROUKHOV, M.Ya.

Experimental smelting with a reduced slag output. Stal' 24
no.12:1069-1075 D '64. (MIRA 18:2)

1. Magnitorskiy metallurgicheskiy kombinat i Chelyabinskiy
nauchno-issledovatel'skiy institut metallurgii.

GALEMIN, I.M.; SAGAYDAK, I.I.; KARSHIN, V.P.; SHPARBER, L.Ya.;
KURUNOV, I.F.; BORTS, Yu.M.

Investigating combustion processes in furnace hearths.
Stal' 23 no. 3:204-207 Mr '64.

(MIRA 17:5)

1. Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii
i Magnitogorskiy metallurgicheskiy kombinat.

KOPYRIN, I.A.; OSTROUKHOV, M.Ya.; STEFANOVICH, M.A.; BORTS, Yu.M.; SAGAYDAK, I.I.; SHPARBER, L.Ya.; VOLKOV, Yu.P.

Heat balance of smelting with a low slag yield for the Magnitogorsk blast furnace. Izv.vys.ucheb.zav.; chern. met. 8 no.4:45-52 '65.
(MIRA 18:4)

1. Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii, Magnitogorskiy metallurgicheskiy kombinat i Magnitogorskiy gornometallurgicheskiy institut.

SAGAYDAK, I.I.; NEKRASOV, V.G.; KOPYRIN, I.A.; DORTS, Yu.M.; BRATCHENKO, V.F.;
RYSYUKOV, N.Ye.; KAKUSHA, N.P.; SHAPIRO, V.Z.

Operation of a large capacity blast furnace with natural gas.
Metallurg 10 no.7:16-19 J1 '65. (MIRA 18:7)

1. Orsko-Khalilovskiy metallurgicheskiy kombinat i Chelyabinskiy
nauchno-issledovatel'skiy institut metallurgii.

ANTOSHKEVICH, V.I., kand. ekoncm. nauk; BORTSOV, G.I., inzh.

Economic effectiveness of the use of plastics in the agricultural
machinery industry. Trakt. i sel'khoz mash. no.8:32-34. Ag '65.
(MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'-
skokhozyaystvennogo mashinostroyeniya, Moskva.

BORTSOV, L.; YERMACHENKOV, N.; NIKOLAYEV, V.

Developing industry-wide time norms for the machining of machine
parts. Biul. nauch. inform.: trud i zar. plata 4 no.9:8-10 '61.
(MIRA 15:1)

(Machine industry--Production standards)

↳ BORTSOV, L.; SOFINSKIY, N.

Basic regulations for developing maintenance norms and time norms
related to maintenance. Biul.nauch. inform.: trud i zar. plata
5 no.1:18-21 '62. (MIRA 15:2)

(Production standards)

SITNIKOV, I.Ye., gorayy inzhener; ~~BORTSOV, I.P., gorayy inzhener.~~

Delayed-action blasting in foreign countries. Gor. zhur.no.3:29-35
Mr '56. (Blasting) (MIRA 9:7)

BORTSOV, N.P.

Pocket sundial with a concave dial plate. Geog. v shkole
26 no.5:61 S-0 '63. (MIRA 16:11)

1. Oteshovskaya shkola Kirovskoy oblasti.

GRISHCHENKO, S.K. (Chelyabinsk); BORTSOV, P.I. (Chelyabinsk)

Improving the operative efficiency of the VL8 electric locomotives. Zhel. dor. transp. 45 no.4:74-77 Ap '63.
(MIRA 16:4)

1. Glavnyy inzh. Yuzhno-Ural'skoy dorogi (for Grishchenko).
2. Zamestitel' nachal'nika sluzhby lokomotivnogo khozyaystva Yuzhno-Ural'skoy dorogi (for Bortsov).
(Electric locomotives)

L 33287-66

ACC NR: AT6012792

SOURCE CODE: UR/3175/66/000/027/0149/0153

AUTHOR: Bortsov, V.D.; Zhigarlovskiy, I.M.

21
0+/

ORG: None

TITLE: Zero shift temperature compensator for a magnetometer with ferrosounding sensors

SOURCE: USSR. Gosudarstvennyy geologicheskii komitet. Osoboye konstruktorskoye byuro. Geofizicheskaya apparatura, no, 27, 1966, 149-153

TOPIC TAGS: magnetometer, TEMPERATURE COEFFICIENT, TEMPERATURE CONTROL /
M-17 MAGNETOMETER

ABSTRACT: The paper describes a precision temperature compensating circuit for the M-17 magnetometer. The compensator was developed to improve the precision of the production model magnetometer, which has a temperature coefficient of over 2 gammas/°C for the applicable range of temperatures; a temperature coefficient under 1 gamma/°C is desired. The compensator decreases the instrument's temperature coefficient to under .1 - .2 gammas/°C. It is employed in combination with coarse compensation by thermomagnetic shunts. The compensator is essentially a Wheatstone bridge with a thermistor branch. The thermistor's resistance can be approximated by the relation:

$R_{ts} = A \cdot \exp(B/T)$ (1) where A & B are constants, and T is the absolute temperature. It can be seen that between 0 and 40°C, R_{ts} decreases practi-

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L 33287-66

ACC NR: AT6012792

cally along a straight line. Therefore, a good compensation is achieved with the bridge connected parallel to the zero shifting circuit of the magnetometer, for the linearly changing portions of the magnetometer signal/temperature curve, i.e. left or right of t in Fig. 1. To expose such a linear portion at any temperature, the temperature of the curve maximum, t_0 , in Fig. 1 is shifted by magnetic shunts.

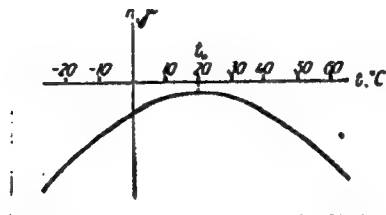


Fig. 1. Temperature error curve of the M-17 magnetometer

Orig. art. has 4 figures.

SUB CODE: 08/

SUBM DATE: None/

ORIG REF: 002

Card 2/2

SOKOLIK, Anatoliy Ioniasovich, kand. tekhn. nauk; BORTSOV, Viktor
Mikhaylovich; POLYAKOVSKIY, Lev Yudelevich, inzh.;
LYUSTIBERG, V.F., inzh., ved. red.; SOROKINA, T.M., tekhn.
red.

[IV-13, IV-13M and IV-13MA time-interval indicators. TTU-5-55
three-channel strain-measuring amplifier] Izmeriteli interva-
lov vremeni IV-13, IV-13M i IV-13MA. Trekhkanal'nyi tenzo-
metricheskii usilitel' tipa TTU-5-55. [By] L.IU.Poliakovskii.
Moskva, Filial Vses.in-ta nauchn. i tekhn.informatsii, 1958.
17 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi
opyt. Tema 31. No.P-58-22/4) (MIRA 16:3)
(Automatic timers) (Strain gauges)

BORTSOV, Yu. A., Cand Tech Sci -- (diss) "Modeling of ~~transition~~
~~transitive~~ processes in complex ~~schemes of an electric~~
^{schemes} drive." Mos, 1957. 16 pp with schemes (Min of Higher Educa-
tion USSR, Mos Order of Lenin ~~Engineering Inst~~ Power Engineering
Inst), 100 copies (KL, 1-58, 117)

- 43 -

~~SECRET~~ BORTSOV, Yu. A.

AUTHOR: MOROZOV, D.P., Prof. Dr. techn. sc., BORTSOV, Yu. A. eng. 105-7-5/29
TITLE: A Generalized Method for Investigating Transients in Motor Drive Systems. (Obobshchennaya metodika issledovaniya perekhodnykh protsessov v skhemakh elektroprivoda, Russian)
PERIODICAL: Elektrichestvo, 1957, Nr 7, pp 19-24 (U.S.S.R.)
ABSTRACT: A method of setting up equations for closed motor electric drive systems with some back feeds is described by means of concrete examples. Differential equations for methods of operation with different initial conditions are derived. A differential equation is derived which is in common for a series of motor electric drive systems with firm back feed and current- and voltage "separation". The constant load of the motor shaft may be taken into account in this equation. A further development of this work is intended, i.e. with respect to the setting up of equations and schemes with elastic back feeds. (With 3 Illustrations, 1 Table and 3 Slavic References).
ASSOCIATION: Moscow Institute for Energetics. (Moskovskiy energeticheskiy institut)
PRESENTED BY:
SUBMITTED: 28.11.1956
AVAILABLE: Library of Congress
Card 1/1

MOROZOV, D.P., prof.; BORTSOV, Yu.A.

Modeling transient processes in complicated electric drive.
Trudy MEI no.29:126-143 '57. (MIRA 13:3)
(Transients (Electricity)) (Electric driving)

8(0)

SOV/112-59-2-2942

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 97 (USSR)

AUTHOR: Bortsov, Yu. A.

TITLE: Determining and Calculating the Parameters of Amplidynes

(K voprosam opredeleniya i ucheta parametrov elektromashinnykh usiliteley)

PERIODICAL: Tr. Mosk. energ. in-ta, 1957, Nr 29, pp 157-167

ABSTRACT: Experiments with EMU-25 and EMU-12 amplidynes were staged with a view toward determining more accurately: (1) the actual coupling coefficients between the control windings and (2) the direct-axis effect of eddy currents and the compensation-winding circuit containing a regulating resistor. Coupling coefficients and time constants are determined. The conclusion is drawn that in modern amplidynes having all control windings in one slot, the coupling coefficient between control windings is close to unity. The resulting time constant of the longitudinal flux is determined as a sum of the time constants of all control windings, plus a constant additional component that allows for eddy

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SOV/112-59-2-2942

Determining and Calculating the Parameters of Amplidyne

currents and the compensating-field winding. In setting up the differential equation for an electric drive and in studying possible simplifications of the drive, it should be kept in mind that with a number of feedbacks in the system, the first stage amplidyne time constant can be commensurable or even can exceed the time constant of the shorted circuit.

L. Ya. L.

Card 2/2

SOV/144-58-11-10/17

AUTHOR: Bortsov, Yu. A. (Candidate Technical Sciences, Senior Lecturer)

TITLE: A Rational Method of Simplifying the Differential Equations of Transient Processes in Electric Drives (Ratsional'nyy sposob uproshcheniya differentsial'nykh uravneniy, opisyvayushchiy perekhodnyye protsessy v skhemakh elektroprivoda)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1958, Nr 11, pp 94-99 (USSR)

ABSTRACT: The dynamics of automatic electric drives are often described by high order differential equations. Because of the difficulty of solving equations of the fifth and higher orders it is desirable to study rational methods of reducing the orders of equations describing transient processes in controlled systems to the third or fourth orders. The time constant of the armature circuit of the first cascade of an amplidyne system can often be neglected because it is short compared with the time constant of the short-circuited circuit. However, this condition is often unfulfilled in the amplidynes of complicated systems with a large number of negative feed-backs and this complicates the problem of

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SOV/144-58-11-10/17

A Rational Method of Simplifying the Differential Equations of
Transient Processes in Electric Drives

simplifying the equations that describe transient processes in such systems. The point is illustrated by numerical data of the time constants of a motor generator system driving a rolling mill. It is shown that the usual methods of simplifying the equations cannot be applied in this case. Another method of simplifying differential equations is based on the theorem that there is a continuous relationship between the roots of an algebraic equation and its coefficient. The change that least alters the coefficients of the equation also causes the least change in value and arrangement of the roots on a complex plane. It follows from this theorem that in reducing the order of an equation the change made should produce the least change in all the coefficients of the equation. In many cases, the order of an equation can be simplified if instead of simultaneously equating a number of parameters to zero, only combinations of small parameters that enter into expressions for the coefficients as products are ignored, without ignoring the individual parameters. Simplification of this kind causes the least alteration in the relationship between all the coefficients and reduces the difference between the approximate and accurate solutions.

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SOV/144-58-11-10/17

A Rational Method of Simplifying the Differential Equations of
Transient Processes in Electric Drives

This statement is considered in more detail with reference to the rolling mill control circuit of Fig 1, the time constants of which have already been given. The current transient process in the motor generator armature system when the motor is started is represented by the fifth order differential equation given in expression (1). Numerical values of data required in the calculation are given in Table 1. It is shown that the products of some of the pairs of parameters are small and if these are neglected a fourth order equation is obtained. In Fig.2, Curve 1 corresponds to the full fifth order differential equation and Curves 2 and 3 to the simplified fourth order differential equations (5) and (6) respectively. It will be seen that the result of ignoring only the product of small parameters is more accurate than that of ignoring the small parameters themselves. For

Card 3/4

SOV/144-58-11-10/17

A Rational Method of Simplifying the Differential Equations of
Transient Processes in Electric Drives

... practical purposes it is convenient to compare the equivalent armature currents as well as the maximum and this may be done during the period of running up to speed using the current/time curves given in Fig 2. The results of calculating the transient processes by different methods are compared in Table 3, from which it will be seen that the recommended method of approximate calculation also gives the more accurate result for the equivalent current in the motor. There are 3 tables, 3 figures and 5 Soviet references.

ASSOCIATION: Kafedra elektrifikatsii promyshlennykh predpriyatiy
Chelyabinskogo politekhnicheskogo instituta (Chair for Industrial
Electrification at Chelyabinsk Polytechnical Institute)

SUBMITTED: November 29, 1958.

Card 4/4

BORTSOV, Yu.A., kand.tekhn.nauk, dotsent

"Automatic control of electric drives" by A.A. Sirotin.
Reviewed by Yu.A. Bortsov. Izv. vys. ucheb. zav.; elektronkh.
3 no.7:109-111 '60. (MIRA 13:9)

1. Chelyabinskiy politekhnicheskiy institut.
(Electric driving) (Automatic control)
(Sirotin, A.A.)

BORTSOV, Yuriy Anatoli'yevich, kand.tekhn.nauk, ⁸ispolnyayushchiy
obyazannosti dotsenta SUVOROV, Gennadiy Vasil'yevich,
starshiy prepodavatel' TANEYEV, Yuriy Aleksandrovich, inzh.

Use of mathematical simulation for improving the dynamic
properties of the electric drive of the Blooming shears.
Izv. vys. ucheb. zav.; elektromekh. 4 no.4:54-61 '61.

(MIRA 14:7)

1. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy
Chelyabinskogo politekhnicheskogo instituta (for Bortsov,
Suvorov). 2. Chelyabinskiy metallurgicheskiy zavod (for
Taneyev).

(Electric driving)

(Electromechanical analogies)

BORTSOV, Yu.A., kand.tekhn.nauk, dotsent; SILESTAKOV, Yu.S., inzh.

Simulation of the operating drive of flying shears. Izv. vys.
usneb. zav.; energ. 6 no. 6:45-51 Ag '63. (MIRA 16:9)

1. Chelyabinskiy politekhnicheskii institut. Predstavlena kafedroy
elektrifikatsii promyshlennykh predpriyatiy.
(Shears (Machine tools)) (Electric driving)

BORTSOV, Yu.A., kand. tekhn. nauk; SUVOROV, G.V., inzh.

Determination of circuit parameters in the simulation of
electromagnetic elements. Elektrichestvo no.8:26-28 Ag '63.
(MIRA 16:10)

1. Chelyabinskiy politekhnicheskii institut.

BORTSOV, Yuriy Anatol'yevich, kand.tekhn.nauk, dotsent; USYNIN, Yuriy
Semenovich, assistant

Simulation of a system of optimum control of flying shears.
Izv. vys. ucheb. zav.; elektromekh. 6 no.6:662-670 '63.

(MIRA 16:9)

1. Kafedra elektrifikatsii promyshlennykh predpriyatiy Chelya-
binskogo politekhnicheskogo instituta.
(Automatic control) (Shears (Machine tools))

BORTSOV, Yu.A.; LAPTEV, V.V.

Consideration of delay constant in the simulation of electronic
and ionic automatic control systems. Izv. vys. ucheb. zav.;
elektromekh. 7 no.6:757-759 '64. (MIRA 17:7)

BORTSOV, Yuriy Anstol'yevich, kand. tekhn. nauk, dotsent. SEREBRYAKOV, Anstol'y
Nikolayevich, aspirant

Dynamic characteristics of the electronic amplifier of the automatic
control system of a rolling mill. Izv. vys. ucheb. zav. i elektromekh.
8 no. 9: 1002-1011 '65. (MIRA 18:10)

1. Kafedra elektromekhaniki i avtomatizatsii Chelystinskogo politekh-
nicheskogo instituta.

ACC NR: AR7002213 (AN) SOURCE CODE: UR/0271/66/000/010/A029/A029

AUTHOR: Bortsov, Yu. A.; Shestakov, Yu. S.; Suvorov, G. V.

TITLE: Experimental determination of the parameters of nonlinear systems in electric drives

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 10A215

REF SOURCE: Sb. Avtomatizir. elektroprivod proizvod. mekhanizmov. T. I. M. - L., 1965, 206-208

TOPIC TAGS: nonlinear system, electric drive,

ABSTRACT: A method of determining the parameters of elements in electrical drive systems is discussed. A description is given of a device which was developed on the basis of this method and which permits sufficiently rapid determinations of the parameters necessary for modeling nonlinear systems in electrical drives. The dynamics of nonlinear electromagnetic elements (excitation circuits of electric machines, EMU, MU, amplidynes, magnetic amplifiers, etc.) which are the basic

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UDC: 62-83

ACC NR: AR7002213

elements in drives, is characterized by magnetization curves, the demagnetization coefficient and rated time constants of the excitation circuit (T_E) and short-circuit contour (T_S). T_E may be determined from the increment (decrement) of the magnetic flux from zero to the base value, and does not depend on the shape of the applied voltage or the presence of magnetically-connected circuits, so that often it is not necessary to set up a special circuit for the experiment, and the measurements may be made without disconnecting the element from the overall system. This is the most important feature of the proposed method for determining the rated time constant. The principle of measuring the coefficient of feedback, the electro-mechanical time constant, and T_S is discussed. A block diagram is given of the device and of its basic technical characteristics. The text includes illustrations. There are 2 references. [Translation of abstract] [SP]

SUB CODE: 09/

Card 2/2

BORTSOV, V.N.

Testing meter bars. Izm. tekhn. no.1:55-56 Ja-F '55. (MIRA 8:9)
(Length measurement)

ZHERNOV, V.S., red.; SHIRSHOV, D.P., red.; PCHELINTSEVA, G.M., red.;
BORTSOVA, A.F., red.; VLASOVA, N.A., tekhn. red.

[Units of new apparatus for the investigation of nuclear radiation]
Uzly novoi apparatury dlia issledovaniia iadernykh izlucheni; na-
ucho-tekhnicheskii sbornik. Moskva, Gos. izd-vo lit-ry v oblasti
atomnoi nauki i tekhn., 1961. 149 p. (MIRA 14:11)
(Radioactivity)

L 31215-66 EWT(m) RM

ACC NR: AP6022791

SOURCE CODE: UR/0079/66/036/002/0229/0232

AUTHOR: Kudryashov, L. I.; Bortsova, E. I.; Yarovaya, S. M.; Kochetkov, N. K. 61
B

ORG: none

.TITLE: Radiation chemistry of carbohydrates. V. Formation of acid products in the radiolysis of aqueous solutions of lactose, cellobiose, and maltose

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 229-232

TOPIC TAGS: radiation chemistry, carbohydrate, chemical decomposition, aqueous solution, isotope, gamma radiation, gamma ray absorption, hydrogen peroxide

ABSTRACT: It was found that under the action of the gamma radiation of Co^{60} on aqueous solutions of lactose, cellobiose, and maltose in the absence of oxygen, radiation hydrolysis of these carbohydrates to the corresponding monosaccharides is not accompanied by the formation of acid products. The acids formed in radiolysis are secondary products. The process of radiolysis of disaccharides in aqueous solutions in the absence of oxygen may be broken down into two steps. In the first step, below $1.4 \cdot 10^{19}$ eV/ml, no formation of acids is observed. At a higher dose, acids are formed in proportion to the absorbed radiation. Below the indicated dose limit, radiolysis occurs chiefly under the action of H and OH radicals, with the main radiation hydrolysis of the disaccharide; at higher doses the hydrogen peroxide concentration becomes appreciable, which reacts with the H and OH radicals to form the peroxide radical. This undergoes secondary reactions to form acids.

Orig. art. has: 4 figures and 2 tables. [JPRS]

SUB CODE: 07, 18 / SUBM DATE: 25Nov64 / ORIG REF: 002 / OTH REF: 005

Card 1/1 BLG

UDC: 574.454

KOCHETKOV, N.K.; KUDRYASHOV, L.I.; YAROVAYA, S.M.; BORTSOVA, E.I.

Radiochemistry of carbohydrates. Part 4: Radiolysis of aqueous
lactose and cellobiose solutions. Zhur. ob. khim. 35 no.7:
1191-1194 J1 '65. (MIRA 18:8)

1. Institut prirodnikh soyedineniy AN SSSR.

KALININ, Boris Arkhipovich; SVIRIDOV, A.A., retsenzent; BORTSOVA, G.M.,
retsenzent; KOLICHENKO, K.N., red.; LOBANOV, Ye.M., red. izd-va;
POKHLEBKINA, M.I., tekhn. red.

[Shifting river transportation workers and office employees to a
shortened workday] Perevod na sokrashchennyi rabochii den' rabochikh
i sluzhashchikh rechnogo transporta. Moskva, Izd-vo "Rechnoi tran-
sport," 1960. 55 p. (MIRA 14:9)
(Inland water transportation--Employees) (Hours of labor)

ZHADAN, V.S., kand. tekhn. nauk; KLYCHNIKOVA, L.V., inzh.; BOITSOVA,
L.A., inzh.

Development of the parameters of industrial air conditioning.
Khol. tekhn. i tekhn. no.1:111-115 '65. (MIRA 18:9)

11 (2, 4)

PHASE I BOOK EXPLOITATION

SOV/2213

Groznyy. Neftyanoy nauchno-issledovatel'skiy institut

Khimiya i tekhnologiya pererabotki nefi i gaza (Chemistry and Technology of Petroleum and Gas Refining Processes) Moscow, Gostop-tekhizdat, 1959. 278 p. (Series: Its: Trudy, vyp. 4) 2,500 copies printed.

Executive Ed.: T.D. Yefremova; Tech. Ed.: A.S. Polosina; Editorial Board: A.Z. Dorogochinskiy (Chairman), B.K. Amerik, G.I. Kaz'min, N.M. Kamakin, V.I. Lavrent'yev, Ye.S. Levchenko, and M.G. Mitrofanov (Deputy Chairman).

PURPOSE: This book is intended for petroleum engineers and technicians in scientific research institutes, planning organizations, and refineries.

COVERAGE: This collection of technical papers on oil and gas refining were originally discussed at the petroleum refining section of the Third GrozNII Scientific-Technical Congress in 1957. The articles have been published to help further the development of the petroleum

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refining industry and petrochemical industry in the Chechen-Ingush ASSR. The history and significance of the petroleum refining industry in the Grozny region is outlined by A.Z. Dorogochinskiy with emphasis on the interdependence of the refineries and the aircraft, automobile and rocket manufacturing industries. Change in modern engines demand a change in fuel and lubricating oil properties. The increased use of jet aircraft makes the production of high octane aviation gasoline less important than the production of the new type of fuel, aviation kerosene, the yield of which requires a quite different refinery run. Since crudes recovered at the Karabulak-Achaluki fields represent a valuable raw material for manufacturing lubricating oil and paraffin wax, their properties have been thoroughly investigated and results of analyses reviewed. The re-equipment of the fuel producing line of refineries at Grozny has been carried out on the basis of findings obtained from tests and pilot plant operations, and a number of reforming and platforming units have been built to upgrade the low octane gasoline produced at Grozny. Tests were also conducted to ascertain the advisability of applying the destructive distillation of residues, which yields solar fractions badly needed for catalytic cracking unit as feed stock. Catalytic cracking units of the 43-102 type were first put on stream in the

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Groznyy refineries-in 1952, and since that time continuous efforts have been made to boost their processing capacity, and improve the regeneration of catalysts. The authors make a number of suggestions as to how the throughput of the above units might be increased. The production of different types of pelleted and bead catalysts, the contamination of catalysts and their reactivation are discussed. The operation of a contact coking reactor, its design, and products yielded by contact coking units are described. The authors also deal with the manufacture of lubricating oils, paraffin and ceresine wax and indicate way of improving their properties. Electrical dehydration and desalting of crude oil and of light products are discussed. The authors state that in recent years extensive studies were made on the chemical conversion of petroleum products, and particularly of gases. As a result, a number of gas fractionators and compressors were built and installed to produce phenol and acetone from propylene and benzene, to synthesize ethyl alcohol and oxidize paraffinic hydrocarbons. An article is devoted to problems of automating various processes and developing the related control and gage instruments. The book

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contains numerous tables with the characteristics of different petroleum products obtained from refinery processing units, pilot plants and petrochemical refinery sections. Each article is accompanied by references.

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Levchenko, Ye.S., Ye.N. Bobkova, O.A. Artem'yeva, and Ye.V. Karaybog. Study of Crudes from the Karabulak-Achaluki Deposits in the Chechen-Ingush ASSR 27

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Chemistry and Technology (Cont.)

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II. IMPROVEMENTS IN THE FUEL PRODUCING LINE OF REFINERIES

Amerik, B.K., N.B. Nazaretova, and A.A. Bashilov. Plan for Remodeling the Fuel Producing Line of the Groznyy Refineries

Nazaretova, N.B., A.A. Bashilov, B.K. Amerik, P.I. Krechetova, P.V. Ovsyannikov, and A.P. Sukhorebrikov. Refinery Experiments with Destructive Distillation of Mazout 48

Amerik, B.K., B.V. Matayeva, L.K. Maydebor, and I.G. Prigornev. Operations of Catalytic Cracking Units of the 43-102 Type, and Possibilities of Increasing Their Yields 60

Kalita, L.A. Some Regular Recurrences in the Catalytic Cracking of Heavy Distillates 72

Ammanuilova, Ye.M., Ya.V. Mirskiy, I.I. Starostin, A.I. Mezhlumova, K.F. Bunin, and D.I. Mizyakov. Experimental Preparation of Industrial Catalysts from the Askani Clay by Acid Activation 82

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